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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,011	11/16/2000	Carmen Tawil	107-945	5549

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EXAMINER

VUONG, QUOCHIE B

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,011

Applicant(s)

TAWIL ET AL.

Examiner

Quochien B Vuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 29-31 and 33-36 is/are rejected.
- 7) ☒ Claim(s) 28, 32 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2, 3-11</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The information disclosure statements (IDSs) submitted on 11/16/00, 05/21/01, 09/24/01, 01/24/02, 01/28/02, 05/10/02, 06/11/02, 06/17/02, 07/30/02 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-27, 29-31, and 33-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of U.S. Patent No. 6,169,878. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claims 1-6, the claims 1-6 of U.S. Patent No. 6,169,878, respectively, encompass all the claimed limitation including an apparatus for simultaneously transmitting terrestrial signals on a common frequency with satellite signals transmitted

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from a satellite, the satellite transmitting satellite signals at a first frequency to a user location for reception within a satellite directional reception range about the user location, the apparatus comprising: (a) a terrestrial transmitter for transmitting terrestrial signals at the first frequency, the terrestrial transmitter being located with respect to the user location such that the terrestrial transmitter transmits to the user location along a route which is outside of the satellite directional reception range, wherein satellite signals are transmitted from a plurality of satellites in geosynchronous orbit, each satellite separated from each other satellite in a geosynchronous arc by an angle greater than one half of the satellite directional reception range and the satellites together transmit satellite signals to the user location within a combined satellite signal transmission range about the user location, and wherein: the terrestrial transmitter transmits only in directions which are outside of the combined satellite signal transmission range and an angle equal to one half of the satellite directional reception range outside of the boundaries of the combined satellite signal transmission range, the apparatus further comprising a plurality of terrestrial transmitters, each transmitting signals at the first frequency from a different terrestrial transmission location, wherein the first frequency is in a range of 12.2 gigahertz to 12.7 gigahertz, or above 12.2 gigahertz, and wherein the satellite directional reception range is approximately eighteen degrees.

Regarding claims 7-11, the claims 7-11 of U.S. Patent No. 6,169,878, respectively, encompass all the claimed limitation including a method for simultaneously providing terrestrial signals on a common frequency with satellite signals transmitted

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from a satellite, where the satellite is transmitting at a first frequency along a satellite transmission axis extending from the satellite to a terrestrial user location, the method comprising the steps of: (a) transmitting terrestrial signals at the first frequency from a terrestrial transmitter, the terrestrial transmitter being located with respect to the user location so as to transmit to the user location along a transmission route which is outside of a satellite directional reception range about the user location, wherein the satellite directional reception range comprises a limited directional range encompassing the satellite transmission axis, transmitting terrestrial signals at the first frequency from a plurality of terrestrial transmitters at different terrestrial locations, wherein the first frequency is in a range of 12.2 gigahertz to 12.7 gigahertz, or above 12.2 gigahertz, and wherein the satellite directional reception range is approximately eighteen degrees.

Regarding claims 12-17, the claims 12-17 of U.S. Patent No. 6,169,878, respectively, encompass all the claimed limitation including an apparatus for facilitating the use of terrestrial transmitted signals which are transmitted on a common frequency simultaneously with satellite signals transmitted from a satellite, the satellite transmitting satellite signals at a first frequency to a terrestrial user location along a satellite transmission axis, the apparatus comprising: (a) a terrestrial transmitter for transmitting terrestrial signals at the first frequency to the user location, the terrestrial transmitter being located with respect to the user location such that the terrestrial transmitter transmits to the user location along a route which is outside of a satellite directional reception range about the user location, wherein the satellite directional reception range comprises a limited directional range encompassing the satellite transmission axis; and

(b) a terrestrial receiving antenna at the user location for receiving signals at the first frequency only within a limited terrestrial directional reception range about the terrestrial antenna, the terrestrial antenna being aligned so that the terrestrial directional reception range encompasses the route from the terrestrial transmitter location to the user location, and being aligned so that the satellite transmission axis is outside of the terrestrial directional reception range, wherein satellite signals are transmitted from a plurality of satellites in geosynchronous orbit, each satellite separated from each other satellite in a geosynchronous arc by an angle greater than an angle equal to one half of the satellite directional reception range and the satellites together transmit satellite signals to the user location within a combined satellite signal transmission range about the user location, and wherein: the terrestrial transmitter transmits only in directions which are outside of the combined satellite signal transmission range and an angle equal to one half of the satellite directional reception range outside of the boundaries of the combined satellite signal transmission range, the apparatus further comprising a plurality of terrestrial transmitters, each transmitting signals at the first frequency from a different terrestrial transmission location, wherein the first frequency is in a range of 12.2 gigahertz to 12.7 gigahertz, or above 12.2 gigahertz, and wherein the satellite directional reception range is approximately eighteen degrees.

Regarding claims 18-23, the claims 18-23 of U.S. Patent No. 6,169,878, respectively, encompass all the claimed limitation including apparatus for simultaneously transmitting terrestrial signals on a common frequency with satellite signals transmitted from a satellite, the satellite transmitting satellite signals at a first

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frequency to a user location for reception within a satellite directional reception range about the user location, the apparatus comprising: (a) a terrestrial transmitter for transmitting terrestrial signals at the first frequency from a fixed terrestrial location which forms a fixed geometry with the user location and the satellite, the terrestrial transmitter being located with respect to the user location such that the terrestrial transmitter transmits to the user location along a route which is outside of the satellite directional reception range about the user location, wherein satellite signals are transmitted from a plurality of satellites in geosynchronous orbit, each satellite separated from each other satellite in a geosynchronous arc by an angle greater than one half of the satellite directional reception range and the satellites together transmit satellite signals to the user location within a combined satellite signal transmission range about the user location, and wherein: the terrestrial transmitter transmits only in directions which are outside of the combined satellite signal transmission range and an angle equal to one half of the satellite directional reception range outside of the boundaries of the combined satellite signal transmission range, the apparatus further comprising a plurality of terrestrial transmitters, each transmitting from a different fixed terrestrial transmission location which forms a fixed geometry with the satellite and the user location, wherein the first frequency is in a range of 12.2 gigahertz to 12.7 gigahertz, or above 12.2 gigahertz, and wherein the satellite directional reception range is approximately eighteen degrees.

Regarding claims 24-27, the claims 1-3 of U.S. Patent No. 6,169,878 disclose an apparatus for simultaneously transmitting terrestrial signals to a first terrestrial service

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area on a common frequency with satellite signals transmitted from a satellite, the satellite transmitting satellite signals at a first frequency to a user location within the first terrestrial service area for reception within a satellite directional reception range about each respective user location, the apparatus comprising: (a) a terrestrial transmitter for terrestrial signals at the first frequency to the first terrestrial service area, the terrestrial transmitter being located with respect to each respective user location in the first terrestrial service area such that the terrestrial transmitter broadcasts to the respective user location along a route which is outside of the satellite directional reception range about the respective user location. Claims 1-3 of U.S. Patent No. 6,169,878 do not specifically disclose the terrestrial signals are broadcasting terrestrial signals to a number of user locations, and satellite signal are transmitted in a digital format.

However, examiner takes Official notice that broadcasting terrestrial signals to a number of user locations, and transmitting digital format satellite signal are well known in the art. Therefore, it would have been obvious for one having ordinary skill in the art the time the invention was made to adapt the well known teaching above to the apparatus of the claims 1-3 of U.S. Patent No. 6,169,878 for broadcasting signals to a plurality of user and using digital format satellite signal for better signal quality.

Regarding claims 29-31, the claims 7-8 of U.S. Patent No. 6,169,878 disclose a method for simultaneously transmitting terrestrial signals on a common frequency with satellite signals transmitted from a satellite, where the satellite is transmitting at a first frequency along a satellite transmission axis extending from the satellite to a terrestrial user location within a first terrestrial broadcast service area, the method comprising the

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steps of: (a) transmitting terrestrial signals at the first frequency from a terrestrial transmitter to the first terrestrial service area, the terrestrial transmitter being located with respect to each respective user location so as to broadcast to the respective user location along a transmission route which is outside of a satellite directional reception range about the respective user location, wherein the satellite directional reception range comprises a limited directional range encompassing the satellite transmission axis. Claims 7-8 of U.S. Patent No. 6,169,878 do not specifically disclose the terrestrial signals are broadcasting terrestrial signals to a number of user locations, and satellite signal are transmitted in a digital format. However, examiner takes Official notice that broadcasting terrestrial signals to a number of user locations, and transmitting digital format satellite signal are well known in the art. Therefore, it would have been obvious for one having ordinary skill in the art the time the invention was made to adapt the well known teaching above to the apparatus of the claims 7-8 of U.S. Patent No. 6,169,878 for broadcasting signals to a plurality of user and using digital format satellite signal for better signal quality.

Regarding claims 33-36, the claims 18-20 of U.S. Patent No. 6,169,878 disclose an apparatus for simultaneously transmitting terrestrial signals on a common frequency with satellite signals transmitted from a satellite, the satellite transmitting satellite signals at a first frequency to a user location in a first terrestrial broadcast service area for reception within a satellite directional reception range about each respective user location, the apparatus comprising: (a) a terrestrial transmitter for broadcasting terrestrial signals to the first terrestrial broadcast service area at the first frequency from

a fixed terrestrial location which forms a fixed geometry with each respective user location and the satellite, the terrestrial transmitter being located with respect to each respective user location such that the terrestrial transmitter broadcasts to the respective user location along a route which is outside of the satellite directional reception range about the respective user location. Claims 18-20 of U.S. Patent No. 6,169,878 do not specifically disclose the terrestrial signals are broadcasting terrestrial signals to a number of user locations, and satellite signal are transmitted in a digital format. However, examiner takes Official notice that broadcasting terrestrial signals to a number of user locations, and transmitting digital format satellite signal are well known in the art. Therefore, it would have been obvious for one having ordinary skill in the art the time the invention was made to adapt the well known teaching above to the apparatus of the claims 18-20 of U.S. Patent No. 6,169,878 for broadcasting signals to a plurality of user and using digital format satellite signal for better signal quality.

Allowable Subject Matter

4. Claims 28, 32, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 28, 32, and 37, the claims 1, 7, and 18 of U.S. Patent No. 6,169,878 and the cited prior art fail to teach or suggest a plurality of additional terrestrial transmitters, each broadcasting signals at the first frequency from a different terrestrial broadcasting location to a portion of the combined terrestrial broadcast

service area from a different fixed terrestrial transmission location which forms a fixed geometry with the satellite and each respective user location in the respective portion of the combined terrestrial broadcast service area, each additional terrestrial transmitter being located with respect to each respective user location to which the respective additional terrestrial transmitter broadcasts such that the respective additional terrestrial transmitter broadcasts to the respective user location along a route which is outside of the satellite directional reception range about the respective user location.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tawil et al. (US 6,208,834) disclose an apparatus and method for facilitating terrestrial transmission at frequencies also used for satellite transmissions to a common geographic area.

Tawil et al. (US6,519,446) disclose an apparatus and method for reusing satellite broadcast spectrum for terrestrially broadcast signals.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

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Hand-delivered responses should be brought to Crystal Park II, 2021

Crystal Drive, Arlington, VA 22202. Sixth Floor (Receptionist).

Any inquiry concerning this communication from the examiner should be directed to Quochien B. Vuong whose telephone number is (703) 306-4530. The examiner can normally be reached on Monday through Friday from 9:30 a.m. to 6:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached on (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377.



QUOCHIE B. VUONG
PRIMARY EXAMINER

Quochien B. Vuong

Mar. 19, 2004.